

STUDIES OF THE ECOLOGICAL AND ECONOMIC CONSEQUENCES OF THE 1998 FLORIDA WILDFIRES: AN INTERAGENCY APPROACH

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ABSTRACT

Within a 2-week period in 1998, wildland fires swept across 500,000 acres of Florida's lands. Over 1,700 fires ignited, leaving behind an enormous path of destruction on federal, state, and private lands. As the smoke continues to clear, many issues arise regarding the ecological and economic consequences of these wildland fires. An Interagency Florida Fire Science team made up of representatives from federal and state agencies and private organizations has been formed to address some of the immediate issues following the Florida fires. This team is: (1) determining the effects of fuel treatments on wildfire severity as it affects overstory mortality, (2) correlating levels of daily fire behavior to Lavdas-Diversion and Haines Indices, (3) assessing the status and response of plant species of concern and exotic species, (4) comparing actual fire behavior to predicted fire behavior, (5) developing GIS-based maps showing selected fuel conditions and wildfire variables to assess landscape fragmentation and potential fire damage under an array of weather conditions, (6) determining relative abundance and timing of pine foraging insects along a fire intensity gradient and monitor insect infestation rates and tree mortality responses, (7) determining the effects of fuel treatments on wildfire behavior from a suppression and safety standpoint as fires moved across the landscape and into residential areas, (8) comparing short-term economic impacts of catastrophic fire with and without prior fuel treatments and providing models to assist managers and policy makers in fuel reduction programs and (9) quantifying the utility of commonly used home protection strategies.

Preliminary results by study are described. For the rare plant response study, 17 sites have been established for surveys. In the fall survey, new locations were determined for four rare plant species: Florida three-awn grass, fall-flowering ixia, Cateby's lily, and the Florida toothache grass. For the wildfire behavior model evaluations study, fire behavior data of the wildfires that was deposited in local forest stations and in the Florida State Division of Forestry office has been reviewed. Available data will be used to evaluate the observed and predicted outcomes of the fire behavior models used during the fires. For the home protection strategies study, homeowners with destroyed or damaged homes resulting from the wildfires are being surveyed as to the types of efforts, if any, used to protect homes, from wildfires. Discussions with local county agents, community organizations, and homeowners are underway to evaluate the home protection efforts employed. Preliminary results suggest that there are several strategies that may be employed to reduce the impact of hazards caused by wildfire, including tree and brush clearance in yards, lack of debris around residences, defensible actions including fire department actions, and building protection through metal soffit vents and block home construction. A summary of the forest insect response study includes bark beetle research plots set up. Twelve plots were established in low, medium, high, and unburned areas. Initial stand condition measurements were taken, and three different types of insect traps were installed. Four collections have been made from the traps to date. The interagency team will continue to collect and analyze data to address these questions in the upcoming year with a final report summarizing all results available on the Internet in January 2000.